Derivatives Service Bureau (UPI)

CHANGE REQUEST FORM

Version	State	Author	Date	Description
1	Draft	J. Lim	18 Mar 2021	Initial Document
2	Draft	J. Lim	30 Mar 2021	Updated Term of reference and additional information section
3	Draft	J.Lim	16 Apr 2021	Updated TOR, Template Layout, Attribute data dictionary, comments, references
4	Draft	J.Lim	22 Apr 2021	Updated record template and comments
5	Draft	J. Lim	29 Apr 2021	Update normalization for Reference Rate Term Value/Unit
6	Draft	J. Lim	10 May 2021	Add a note in normalization process
7	Draft	J. Lim	21 Jul 2021	Updated template layout, attribute section, attribute data dictionary, GUI details and reference

Title	RATES SWAP Inflation Basis Template Definition		
Background	The following CRF presents a specification for the generation and retrieval of a Unique Product Identifier for the following product: • **Rates : Swap : Inflation_Basis**	**DSB-ID**	**UPI-0094**
		Type	New Template
		Owner	J.Lim
		Version	7
		State	Draft
Terms of Reference			
Scope	• This CRF specifies the product definition required for the generation / retrieval of a UPI only. • This CRF covers both the input (Request) and output (Record) templates. • Support for local jurisdiction / alternate underlier identifier input is currently out of scope. • Support for CFI 2019 values is currently out of scope.		
Requirements	• The product definition will conform to ISO 4914 (UPI). • Where possible, the product definition is to be based on the attributes, values and behaviour of the equivalent OTC ISIN. • The product definition will return a product short name (FISN). • All UPI records stored on the DSB RDL will include the ISO 10962 (CFI) code associated with the UPI along with an equivalent text value for all attributes that are included in the definition of the CFI.		
Dependencies	• This specification is dependent on final sign-off of the ISO 4914 (UPI) specification. • This specification is dependent on PC approval for the use of the OTC ISIN definitions as a basis for the UPI. • This specification is dependent on PC approval for the inclusion of ISO 4914 (UPI) conditional attributes. • This specification is dependent on TAC Approval for the DSB approach to ISO 10962 (CFI:2019) migration. • This specification is dependent on the provision of a human-readable alias for the primary underlier for inclusion in the Short Name (FISN) and a human-readable alias for the Contract Specification. • The format of the Short Name is dependent upon the outcome of the ISO 18774 (FISN) systematic review.		
Assumptions	• This specification assumes that, unless stated, all values and behaviours are based on those of the equivalent OTC ISIN product definition. • This specification assumes that no input values are to be defaulted by the system. • This specification is based on the current ISO 4914 (UPI) specification (CD) – including attributes that are not currently supported by the equivalent OTC ISIN. • This specification is based on the DSB's current equivalent OTC ISIN product definition. • This specification is based on the attributes and values defined in ISO 10962 (CFI:2015).		

- In order to provide an example Short Name, this specification defines a format for this attribute that may not conform to the eventually agreed FISN format for the UPI. This specification assumes that the Short Name is defined using the same attributes (where available) as the OTC ISIN Short Name.
- Where possible, this specification derives GUI details from the ISO 4914 (UPI) specification for attributes that are not included in the current OTC ISIN product definition.
- The display information in the GUI for the existing attributes (and values) are taken from the OTC ISIN. If such information contains an "ISIN" in the description, replace the value into "UPI".
- The specification for UPI does not include expiry date as part of the attributes, hence "expired" status does not apply.

Request Template Layout

Section	Attribute	Format	Cat	Example Value	Validation / Derivation	Enum Source	ORIGIN
Header Section	Asset Class	Set	M	Rates		CFI:2015 Char#2	ISIN
	Instrument Type	Set	M	Swap		CFI 2015 Char#1	ISIN
	Product	Set	M	Inflation_Basis			ISIN
	Level	Set	M	UPI			NEW
Attribute Section	Underlier ID	Enum	M	EUR-AI-CPI	FpmlRatesInflationRate.json	Fpml Coding Scheme 5.108	NEW
	Underlier ID Source	String	M	FPML	[FPML]	internal	NEW
	Reference Rate Term Value	Integer	M	3	-999 to 999 (excluding 0)		ISIN
	Reference Rate Term Unit	Enum	M	MNTH	[DAYS, WEEK, MNTH, YEAR]	ISO 20022	ISIN
	Other Leg Underlier Type (oneOf)	String	M	Floating Rate	[Floating Rate]		NEW
	Other Leg Underlier ID Source	String	M	FPML	[FPML]	internal	NEW
	Other Leg Underlier ID	Enum	M	AUD-LIBOR-BBA	FpmlRatesReferenceRate.json	Fpml Coding Scheme 5.98	NEW
	Other Leg Underlier Type (oneOf)	String	M	Inflation Rate	[Inflation Rate]		NEW
	Other Leg Underlier ID Source	String	M	FPML	[FPML]	internal	NEW
	Other Leg Underlier ID	Enum	M	AUD-CPI	FpmlRatesInflationRate.json	Fpml Coding Scheme 5.108	NEW
	Other Leg Reference Rate Term Value	Integer	M	3	-999 to 999 (excluding 0)		ISIN
	Other Leg Reference Rate Term Unit	Enum	M	MNTH	[DAYS, WEEK, MNTH, YEAR]	ISO 20022	ISIN
	Notional Currency	Enum	M	EUR	ISOCurrencyCode.json	ISO 4217 (3-Char CCY)	ISIN
	Notional Schedule	Enum	M	Constant	[Constant, Accreting, Amortizing, Custom]	CFI:2015 Char#4 (SR****)	ISIN
	Delivery Type	Enum	M	PHYS	[CASH, PHYS]	ISO 20022	ISIN

Record Template Layout

Section	Attribute	Format	Cat	Example Value	Validation / Derivation	Enum Source	ORIGIN
Header Section	Asset Class	Set	M	Rates		CFI:2015 Char#2	ISIN
	Instrument Type	Set	M	Swap		CFI 2015 Char#1	ISIN
	Product	Set	M	Inflation_Basis			ISIN
	Level	Set	M	UPI			NEW
	Template Version	Integer	D	1			ISIN
Attribute Section	Reference Rate	Enum	M	EUR-AI-CPI	FpmlRatesInflationRate.json	Fpml Coding Scheme 5.108	ISIN
	Reference Rate Term Value	Integer	M	3	-999 to 999 (excluding 0)		ISIN
	Reference Rate Term Unit	Enum	M	MNTH	[DAYS, WEEK, MNTH, YEAR]	ISO 20022	ISIN
	Other Leg Reference Rate	Enum	M	AUD-LIBOR-BBA	FpmlRatesReferenceAndInflationRate.json	Fpml Coding Scheme 5.98 and 5.108	ISIN
	Other Leg Reference Rate Term Value	Integer	M	3	-999 to 999 (excluding 0)		ISIN
	Other Leg Reference Rate Term Unit	Enum	M	MNTH	[DAYS, WEEK, MNTH, YEAR]	ISO 20022	ISIN
	Notional Currency	Enum	M	EUR	ISOCurrencyCode.json	ISO 4217 (3-Char CCY)	ISIN
	Notional Schedule	Enum	M	Constant	[Constant, Accreting, Amortizing, Custom]	CFI:2015 Char#4 (SR****)	ISIN
	Delivery Type	Enum	M	PHYS	[CASH, PHYS]	ISO 20022	ISIN
Identifier Section	UPI	String	D	QZGL629H2T52	See UPI Document (UPI Code structure and Annex C)	ISO 4914	NEW
	Status	String	D	New			ISIN
	Status Reason	String	D	<null>	Not applicable to a New record		ISIN
	Last Update Date Time	DdTm	D	2021-02-23T00:00:13	YYYY-MM-DDThh:mm:ss		ISIN
Derived Section	Classification Type	String	D	SRGCSP	See CRF (Derivations)	ISO 10962:2015	ISIN
	Short Name	String	D	NA/Swap Infl Idx Flt EUR	See CRF (Derivations)	ISO 18774: 2015	NEW
	Underlying Asset Type	String	D	Inflation Rate Index	Fixed value	CFI:2015 Char#3 (SRG***)	ISIN
	Single or Multiple Currency	String	D	Single Currency	Fixed value	CFI:2015 Char#5 (SR**S*)	ISIN
	CFI Delivery Type	String	D	Physical	See CRF (Derivations)	CFI:2015 Char#6 (SR****)	NEW

Product Definition

Attributes

See Template Layout (above).

a) **Other Leg Underlier Type**

The Request template described in this document supports products that can be defined on the basis of more than one type of underlier. For this product, the user is asked to select one of the following:

- Floating Rate
- Inflation Rate

	** Please see Underlier Input Method Document (see Reference Section below) for further details.*
Validation	See Template Layout (above).
Attribute Data Dictionary	This section provides the exact reference or source of the attribute.

Full Name	Source	Type
Reference Rate/ Other Leg Reference Rate	FpML Coding Schemes	Max25Text (based on string) minLength: 1 maxLength: 25
Reference Rate Term Value/ Other Leg Reference Rate Term Value	Integer – Positive or negative but not 0	Max3Number (based on decimal) fractionDigits: 0 totalDigits: 3
Reference Rate Term Unit/ Other Leg Reference Rate Term Unit	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Max35Text (based on string) minLength: 1 maxLength: 35
Notional Currency	ISO 4217 Currency Codes	Pattern: [A-Z]{3,3}
Notional Schedule	ISO 10962 Classification of financial instruments (CFI code)	Enums *[Constant; Accreting; Amortizing; Custom]*
Delivery Type	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums *[CASH; PHYS]*
CFI Delivery Type	ISO 10962 Classification of financial instruments (CFI code)	Enums *[Cash; Physical]*

Normalization

1. **Reference Rate Term Value and Reference Rate Term Unit/ Other Reference Rate Term Value and Other Reference Rate Term Unit**
   - If Reference Rate Term Unit = "DAYS" and Reference Rate Term Value is divisible by 7, record it in weeks

Reference Rate Term Value/ Other Reference Rate Term Value	7	→	Reference Rate Term Value/ Other Reference Rate Term Value	1
Reference Rate Term Unit/ Other Reference Rate Term Unit	DAYS		Reference Rate Term Unit/ Other Reference Rate Term Unit	WEEK

   - If Reference Rate Term Unit = "MNTH" and Reference Rate Term Value is divisible by 12, record it in years

Reference Rate Term Value/ Other Reference Rate Term Value	12	→	Reference Rate Term Value/ Other Reference Rate Term Value	1
Reference Rate Term Unit/ Other Reference Rate Term Unit	MNTH		Reference Rate Term Unit/ Other Reference Rate Term Unit	YEAR

2. **Reference Rate and Other Reference Rate**
   For Basis Swap, the input reference rate and other reference rate submitted by users need to normalize to ensure that same UPI is returned for a same set of attributes.
   The normalization applies if same code set is used for both attributes.
   - Order the "Reference Rate" and "Other Reference Rate" alphabetically.
   - If the "Reference Rate" is first alphabetically, then record it as "Reference Rate".
   - If the "Reference Rate" is not first alphabetically, then record the fields as below:

Reference Rate	→	Other Leg Reference Rate
Reference Rate Term Value		Other Leg Reference Rate Term Value
Reference Rate Term Unit		Other Leg Reference Rate Term Unit

Other Leg Reference Rate	→	Reference Rate
Other Leg Reference Rate Term Value		Reference Rate Term Value
Other Leg Reference Rate Term Unit		Reference Rate Term Unit

   If the Reference rate and Other reference rate are identical, the term value and unit will normalize to ensure that singular UPI is returned for same set of attributes.

- If the Term unit is the same, then order the Term Value numerically from lowest to highest.
- If the Term unit is different, then convert the term unit as per order term multiplier below:
  DAYS = 1
  WEEK = 7
  MNTH = 30
  YEAR = 365
- Multiply the number of Term value and order term multiplier for both reference rate legs. Then order the equivalent value numerically from lowest to highest as per below:

Reference Rate	AUD-LIBOR-BBA	→	Reference Rate	AUD-LIBOR-BBA
Reference Rate Term Value	15		Reference Rate Term Value	1
Reference Rate Term Unit	DAYS		Reference Rate Term Unit	WEEK
Other Leg Reference Rate	AUD-LIBOR-BBA		Other Leg Reference Rate	AUD-LIBOR-BBA
Other Leg Reference Rate Term Value	1		Other Leg Reference Rate Term Value	15
Other Leg Reference Rate Term Unit	WEEK		Other Leg Reference Rate Term Unit	DAYS

- If the Reference Rate Term Value/Unit and Other Reference Rate Term Value/Unit has same equivalent value based on the order term multiplier, the details for the said attributes will be as is in the record template.

Derivation

This section provides additional details to the derivation logic specified in the Template Layout sections (above).

Classification Type	Concatenation of the following attributes/values: • Instrument Type: "S" • Asset Class: "R" • Underlying Asset Type: "G" • Notional Schedule: from Request.Notional Schedule… - *Constant →* *C* - *Accreting →* *I* - *Amortizing →* *D* - *Custom →* *Y* • Single or Multi-Currency: "S" • Delivery Type: from Request.Delivery Type… - *CASH →* *C* - *PHYS →* *P* E.g.: "SRGCSP"
Short Name	Concatenation of the following attributes/values: i. Issuer Name: "NA/" ii. Instrument Type: "Swap" (fixed value) iii. Underlying Asset Type: "Infl Idx" (If other reference rate is Inflation) "Infl Idx Flt" (If other reference rate is floating) iv. Notional Currency: e.g., EUR – from ISO 4217 input value E.g.: "NA/Swap Infl Idx Flt EUR". *Note: The Short Name is based on the OTC ISIN that excludes the following fields:* - *Expiry Date*
CFI Delivery Type	Derived from the input Delivery Type… • CASH → "Cash" • PHYS → "Physical"

GUI Details

The following section provides display information for any attributes (and values) that are not included in the related OTC ISIN definition.

Attribute	**Display Name**	**Tool Tip (and • *value elaboration*)**
Other Leg Underlier Type	Other Leg Underlier Type	Indicates the type of underlying asset or entity on which the product is based.
Underlier ID	Underlier ID	An identifier that can be used to determine the asset(s), index (indices) or benchmark underlying a contract or, in the case of a foreign exchange derivative, identification of the currency pair or index
Underlier ID Source	Underlier ID Source	The origin, or publisher, of the associated underlier ID.

Other Leg Underlier ID	Other Leg Underlier ID	An identifier that can be used to determine the asset(s), index (indices) or benchmark underlying a contract or, in the case of a foreign exchange derivative, identification of the currency pair or index
Other Leg Underlier ID Source	Other Leg Underlier ID Source	The origin, or publisher, of the associated underlier ID.
UPI	Identification	Unique Product Identifier (ISO 4914).
CFI Delivery Type	CFI Delivery Type •	The Delivery Type as defined by CFI code: ISO 10962 • *As defined by CFI Code: ISO 10962* •

Additional Information

Reference

References to external documents can be found on the DSB website at this address [https://www.anna-dsb.com/upi-external-reference-documents/].

Comments

- Text values in the Short Name are taken from “ISO Abbrev w acronyms-Final_v0.5.5.FINAL.”
- Existing OTC ISIN product definition methodology in Short Name abbreviation for Underlying Asset Type – Inflation Rate Index, ISO abbreviation “Infl Idx” is applied. However, text values in “ISO Abbrev w acronyms-Final_v0.5.5.FINAL” shows “Infl Rt Idx”.
- Existing OTC ISIN product definition methodology of the Short Name abbreviation (Issuer of TV + "/" + Instrument Type) for Equity Asset Class has “**NA/Swaps**” whereas Rates has “**NA/Swap**”.
- The behaviour for underlier id and other leg underlier id will be based on the DSB OTC ISIN where components of “inflation vs inflation” and “inflation vs floating” will apply.

ISO 4914 Equivalence

ISO 4914		**Request Attribute**	**Record Attribute**
Asset Class	M	Asset Class	Asset Class
Instrument Type	M	Instrument Type	Instrument Type
Currency associated with an underlying reference rate	M	Notional Currency	Notional Currency
Delivery Type	M	Delivery Type	Delivery Type
			CFI Delivery Type
Notional Schedule	M	Notional Schedule	Notional Schedule
Single or Multi Currency	M	Not Required	Single or Multi Currency
Underlier ID	C	Underlier ID	Reference Rate
	C	Other Leg Underlier ID	Other Leg Reference Rate
Underlier ID source	C	Underlier ID source	Not Required
	C	Other Leg Underlier ID Source	Not Required
Underlier Type	M	Not Required	Underlying Asset Type
Underlying rate index tenor period	C	Reference Rate Term Unit	Reference Rate Term Unit
	C	Other Leg Reference Rate Term Unit	Other Leg Reference Rate Term Unit

	Underlying rate index tenor period multiplier	C	Reference Rate Term Value	Reference Rate Term Value
		C	Other Leg Reference Rate Term Value	Other Leg Reference Rate Term Value